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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/692,158	10/22/2003	Yasuo Kitaoka	10873.1330US01	8339

23552 7590 01/31/2006

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EXAMINER
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NGUYEN, PHILLIP

ART UNIT	PAPER NUMBER
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2828

DATE MAILED: 01/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/692,158

Applicant(s)

KITAOKA ET AL.

Examiner

Phillip Nguyen

Art Unit

2828



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/12/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

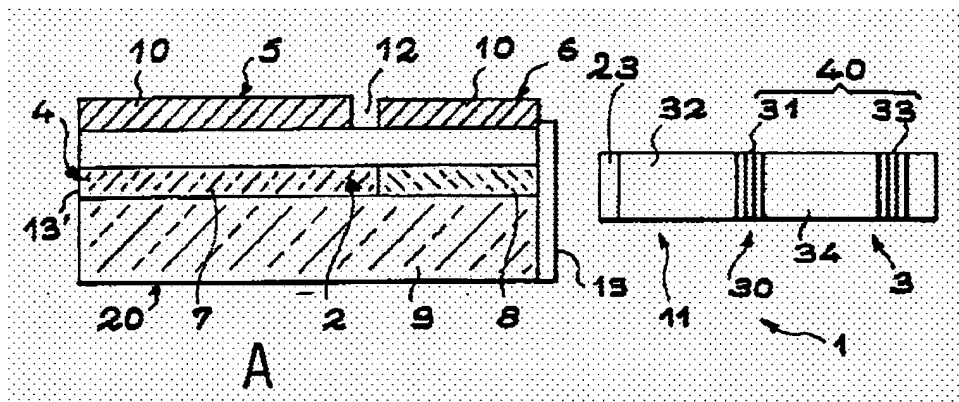
**DETAILED ACTION*****Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6-8, and 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Jacquet (US Publication 2002/0118711, now patented US 6822981).



With respect to claim 1, Jacquet discloses in Fig. 3A-C 1. A coherent light source, comprising a two-electrode laser diode provided with an active region 5 having an active layer 7 that emits light due to injection of a current, and a phase control region 6 that has a layer 8 that is contiguous with the active layer and in which a change in refractive index is caused by injection of current; and an optical waveguide device 30 in which a distributed Bragg reflector (31/33) (DBR) region is formed; wherein laser light that is emitted from the two-electrode laser diode is coupled optically into an optical waveguide of the optical waveguide device, and a portion of the

laser light that is emitted from the two-electrode laser diode is reflected by the DBR region and returned to the two-electrode laser diode, thereby locking an oscillation wavelength.

With respect to claim 2, Jacquet also discloses wherein an emission end face 15 of the two-electrode laser diode and an incidence end face 23 of the optical waveguide device are in opposition to one another, and the laser light emitted from the two-electrode laser diode is optically coupled directly into the optical waveguide of the optical waveguide device.

With respect to claim 3, Jacquet discloses the laser light that is emitted from the two-electrode laser diode is coupled optically into the optical waveguide of the optical waveguide device via an optical fiber (paragraph 0029).

With respect to claims 4 and 8, it is inherent that the active portion in the phase control region has been disordered, so that an injection of current causes a change in refractive index but does not cause laser oscillation.

With respect to claim 6, Jacquet discloses wherein an electrode 10 is formed in the phase control region, and by applying current or voltage through the electrode, a phase state inside a resonator of the two-electrode laser diode is changed.

With respect to claim 7, Jacquet also discloses in Fig. 3B and C the DBR region being disposed substantially adjacent to the emission end face of the laser diode.

With respect to claims 12-13, Jacquet discloses the product; it is inherent product by process for performing method as recited in the claims.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacquet ('US Publication 2002/0118711) in view of Yamamoto et al. ('369). Jacquet discloses the claimed invention except for the optical waveguide device being a wavelength conversion device that employs SHG. Yamamoto discloses a waveguide device which is a wavelength conversion device with DBR employing SHG as shown in Fig. 8, 17. For the improvement of the light source, it would have been obvious to the one having ordinary skill in the art at the time the invention was made to provide a wavelength conversion device to employ SHG as taught to Yamamoto to Jacquet in order to obtain SHG while easily maintaining the phase-matching wavelength (col. 6, lines 64-67, and col. 7, lines 1-3).

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***Communication Information***

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phillip Nguyen whose telephone number is 571-272-1947. The examiner can normally be reached on 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MINSUN HARVEY, can be reached on 571-272-1835. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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JAMES  
MENENDEZ